



GARY R. HERBERT  
Governor

SPENCER J. COX  
Lieutenant Governor

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

6164

August 12, 2014

Chris Kaiser  
Kennecott Utah Copper LLC  
4700 Daybreak Parkway  
South Jordan, Utah 84095

Subject: Fourth Review of Response to Division Directive, Kennecott Barneys Canyon Mining, Barneys Canyon Mine, M/035/0009, Salt Lake County, Utah

Dear Mr. Kaiser:

The Division of Oil, Gas and Mining has completed a review of the Phase II Upper Clay Hollow Drainage Material Removal proposal received July 18, 2014. The attached comments need to be addressed.

The Division would like cleanup to continue from segment 1, Phase I to segment 2 through 4, Phase II. Subject to approval from other appropriate agencies (see below), Kennecott Barneys Canyon Mine may commence with cleaning up the Clay Hollow drainage west of Highway 111, Phase II along segments 2 through 4, as defined in Figure 1-4 dated July 17, 2014. Please provide an amendment to the Notice of Intention for the Barneys Canyon mine to address the long term sediment control during the reclamation stage of Barneys Canyon until final reclamation can be achieved. In the attached review, please address the remaining comments in the time frame noted with the comment.

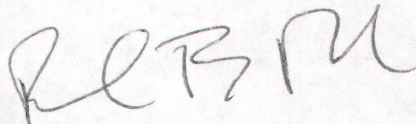
**The approval or acceptance of this response to the Division Directive does not relieve Kennecott Barneys Canyon Mining from its responsibility to comply with the applicable statutes, rules, regulations, and ordinances of all local, state and federal agencies with jurisdiction over any aspect of the mining operations.**



Page 2 of 6  
Chris Kaiser  
M/035/0009  
August 12, 2014

The Division may have additional comments based on the review responses. The Division will suspend further review of the response to the Division Directive until your response to this letter is received. Please contact Leslie Heppler at 801-538-5257 or me at 801-538-5261 if you have questions about this review. Thank you for your cooperation in completing this permitting action.

Sincerely,

A handwritten signature in dark ink, appearing to read 'P. B. Baker', written in a cursive style.

Paul B. Baker  
Minerals Program Manager

PBB: lah: eb  
Attachment: Review  
cc: Doug Bacon, Hans Millican, Brian Hamos, Dan Hall, and David Allison, DEQ (dbacon@utah.gov, hmillican@utah.gov, bhamos@utah.gov, dhall@utah.gov, dallison@utah.gov, Kerri Fiedler, EPA (fiedler.kerri@epa.gov)  
P:\GROUPS\MINERALS\WP\M035-SaltLake\M0350009-BarneysCyn\Final\AMEND-6164-08112014.docx



Page 3 of 6  
Chris Kaiser  
M/035/0009  
August 12, 2014

**Review of Response to Division Directive  
Kennecott Barneys Canyon Mining  
Barneys Canyon Mine  
M/035/0009  
August 11, 2014**

**General Comments**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
1	General	(Prior Comment #1) The Division requires that Kennecott Barneys Canyon implement a planned preshift inspection of the leach pads, until such time as erosional issues have been satisfactorily addressed. Please submit an amendment to the Notice of Intention with a proposed schedule, as per rules R647-4-107.3 and 107.4.  <b>This is an ongoing function with an ongoing submittal.</b>	lah	
2	General	New comment - Please provide one final document with all changes for all phases with a single appendix.	lah	

**R647-4-105 - Maps, Drawings & Photographs**

**General Map Comments**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
3	Figure 1-4	New comment - The figure shows the Phase III boundary which is to be included as an amendment to the Barneys Canyon Notice of Intention. The northern boundary line as shown in the figure needs to include the Clay Hollow drainage, as the drainage was impacted (per R-647-4-109.1). The northern boundary line should include, at a minimum, 20 vertical feet above the north side of the drainage bottom. Please resubmit Figure 1-4 with the changes.	lah	
4	Figure 1-1	New comment - At this scale, the black outline around the Upper Clay Hollow Work Segments creates confusion, particularly when showing the deposits streaming immediately off of BC-05. Please clarify or remove the outline.	mpb	
5	Figure 1-1	New comment - On this figure, draw a dashed box outlining the area included in Figure 2-1 and add a call-out referring to Figure 2-1 for detailed reference.	mpb	
6	Figure 2-3	New comment - Typo in call-out on the left side of the map: "...deposited in Heap <u>Lead</u> Pad BC-05." This should be "Leach" pad.	mpb	

**R647-4-106 - Operation Plan**

**General Operation Comments**

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
-----------	------------------------	----------	----------	---------------



Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
7	Page 2-5 Bullet 2	New comment: As written the plan says, "...all removed sediment will be hauled off site." Please rewrite to "...all removed sediment will be placed on BC-5 as a primary repository and BC-03 as an alternative repository."	lah	

#### 106.8 - Depth to groundwater, extent of overburden, geologic setting

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
8	Omission	(Prior comment #3 for Phase I ) Please provide data from other groundwater wells in the area. Include geologic log.  <i>Addendum 7 is adequate for construction to begin, as general lithology is on the log. The detailed lithology has been cut off in the copying process. Please provide in the form of replacement pages as an amendment to the plan.</i>	lah	

#### R647-4-109 - Impact Assessment

##### 109.1 – Projected impacts to surface & groundwater systems

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
9	Omission	(Prior comment #9) Propose a ground water monitoring location in segment 3. Include specifics of the well construction details and monitoring protocol. Additional monitoring locations might be warranted dependent upon results.  <i>Based on verbal and email communication received from Kennecott on subsurface geologic information, the Division feels only a shallow ground water monitoring hole is warranted at this time. Future analytical results may show otherwise. In summary, consolidate all geology under Attachment #8.</i>  <i>Ground water monitoring is not required by R647, but rule R647-4-107-2 says, "If natural channels are to be affected by mining operation, then the operator shall take appropriate measures to avoid or minimize environmental damage". The Division recommends installing a shallow ground water monitoring well.</i>  <b>The Division may need to make further requirements with regard to this issue, but it is not necessary for clean up construction to begin.</b>	lah	

##### 109.4 – Projected impacts on slope stability, erosion control, air quality, public health and safety

Comment #	Sheet/Page/Map/Table #	Comments	Initials	Review Action
-----------	------------------------	----------	----------	---------------



Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
10	Addition to NOI	<p>(Prior comment #18) Provide an amendment to the Notice of Intention (NOI) re-evaluating the projected impacts of the Barneys Canyon mine on erosion control, air quality, and public health and safety.</p> <p><b>This comment does not need to be addressed prior to construction clean up but is to be submitted by September 15, 2014.</b></p>	lah	

#### 109.5 - Actions to mitigate any impacts

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
11	Addition to NOI	<p>(Prior comment #19) Provide an amendment to the NOI on Kennecott Barneys Canyon's actions to mitigate sediment and deleterious materials releases which might impact the environment.</p> <p><b>This comment does not need to be addressed prior to construction clean up but is to be submitted by September 15, 2014..</b></p>	lah	
12	Page 2-6	<p>New comment - Section 2.2.1: The issue regarding the culvert and steel plate under the B&amp;G rail grade needs more clarification. Some answers to the original form of this comment were given verbally, but some parts remain in need of clarification: A dimensioned section drawing showing this system after proposed activities would be appropriate. Please specify the diameter of the culvert and whether the steel plate covers the entire opening. (Verbally stated as 36".) After replacement, please state whether the plate will completely cover the culvert, and if not, what the elevation of the top of the steel plate will be relative to the adjacent ground surface (basically, a weir height and depth of the "basin" that this will create). How long will this plate remain in place? (Verbally stated as "for the duration of the Clay Hollow clean-up.")</p> <p>If properly designed, the Division is not opposed to this action becoming a permanent feature as it would provide long-term management of future storm water runoff containment. However, this option would need to be coordinated with DWQ as the basin would essentially function as an industrial storm water retention feature. This would likely require that it be amended to the existing Groundwater Discharge Permit, with associated monitoring well(s) as required by DWQ for the duration of the Groundwater Discharge Permit coverage period.</p>	mpb	
13	Appx E, SWPPP, Pg. 2	New comment - Item 16, has a typo: "...the Copperton <u>Rain</u> Line..." should be Rail Line. As part of the SWPPP, this could be confusing to the uninitiated. Please correct.	mpb	
14	Appx E, SWPPP Pg. 3	New comment - Item 20: Please confirm that a Notification of Termination (NOT) will be submitted to the DWQ, Construction Storm Water Program, at the end of the project to document the termination of the Construction General Permit (CGP). The NOT form is available on DWQ's website.	mpb	

#### 110.5 - Revegetation planting program

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
-----------	-------------------------------	----------	----------	------------------



Page 6 of 6  
Chris Kaiser  
M/035/0009  
August 12, 2014

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
15	Page 2-7	New comment - Section 2.5, Post-removal Reclamation plan calls for an "upland seed mix" to be used at the site. Please either specify the seed mix, or state that it will be a seed mix previously approved in the Notice of Intention.	mpb	